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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/633,273  | 08/01/2003  | Yong Yan             | 199-0200US          | 3376             |
| 29855   | 7590        | 01/12/2007           | EXAMINER            |                  |
| WONG, CABELLO, LUTSCH, RUTHERFORD & BRUCCULERI,<br>L.L.P.<br>20333 SH 249<br>SUITE 600<br>HOUSTON, TX 77070 |             |                      | REKSTAD, ERICK J    |                  |
|   |             | ART UNIT             | PAPER NUMBER        |                  |
|   |             |                      |                     | 2621             |
| SHORTENED STATUTORY PERIOD OF RESPONSE  |             | MAIL DATE            | DELIVERY MODE       |                  |
| 3 MONTHS  |             | 01/12/2007           | PAPER               |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                           |                     |  |
|------------------------------|---------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b>    | <b>Applicant(s)</b> |  |
|                              | 10/633,273                | YAN ET AL.          |  |
|                              | Examiner<br>Erick Rekstad | Art Unit<br>2621    |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 01 August 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-40 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-40 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 01 August 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

This is a First Office Action for application no. 10/633,273 filed on August 1, 2003 wherein claims 1-40 are presented for examination.

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the method for improving video processing as claimed must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

***Claim Objections***

Claims 1 and 17 are objected to because of the following informalities: The claims contain quotation marks. Appropriate correction is required.

Claim 49 is objected to because of the following informalities: The claim should be numbered 39. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 49 and 40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not teach a computer system or computer readable medium which the applicant is claiming.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 34 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: How the determination of the orientation of the edges is determined. As described in claim 1, the step of determining the orientation based on the prediction mode is provided. This requirement should be added to claim 34 to provided a complete method.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-4, 6-12, 14-20, 22-29, 31-33, and 36-38 are rejected under 35 U.S.C. 102(a) as being anticipated by “Adaptive Deblocking Filter” to List et al. [claims 1, 8, 9, 10, 11, 16, 24, 25, 27, 28, 38]

List teaches the use of a filtering means for use with the H.264 video coding standard (Abstract). Since the deblocking filter is performed on the decoded H.264 video image it would have been an inherent feature that the scheme includes nxm intra-block prediction with a prediction direction, where n and m are integers greater than 1, the intra block prediction mode selected in the coding of a block is indicated in the coded bit stream, the video pictures are acquired, coded, transmitted, decoded and

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displayed as these are features of the H.264 standard. Further, it would have been inherent that the prediction mode would be identified for the blocks of the pictures as this would be required to properly decode the image according to the H.264 standard. Note, the claim does not limit the filtering to only the second and forth quadrant direction. The claim merely states that if the prediction direction is a second or fourth quadrant direction then process the block through a filter. List teaches the deblocking of decoded macroblocks of a H.264 image, therefore all the blocks are filtered (Page 614, Second Column Second Paragraph). As required by claims 10, 16, 27, and 33, the blocks are 4x4 blocks of 16x16 macroblocks (Sections C. Filtering for Edges With Bs Equal to 4).

[claims 2 and 18]

List teaches both means of deblocking (post or loop) are performed before displaying the block (Page 614 First Column Second Paragraph).

[claims 3, 6, 7, 12, 14, 15, 19, 22, 23, 29, 31, 32]

List teaches the filtering includes a vertical and horizontal filtering (Page 616 Second Column Last Paragraph).

[claims 4 and 20]

List teaches the use of a FIR filter as a 5, 4 or 3 tap filter (Section C. Filtering for Edges With Bs Equal to 4).

[claim 17]

List further teaches the use of the quantization parameters to determine the filtering (C. Sample-Level Adaptivity of the Filter).

[claims 36 and 37]

As shown in Figure 7, List teaches the deblocking performs filtering on blocks in the second and fourth quadrant. The image (a) shows the image is substantially free of sparkles.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 5, 13, 21, and 30 rejected under 35 U.S.C. 103(a) as being unpatentable over List.

[claims 5, 13, 21 and 30]

As shown above, List teaches the use of a 3-tap FIR filter (Section C. Filtering for Edges With Bs Equal to 4). List is silent on the exact weight of the taps. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the [  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{1}{4}$  ] weights for the FIR filter as a design choice (Official Notice).

[claim 26]

List teaches the quantization threshold may be any value between 0-51. Therefore it would have been obvious to one of ordinary skill in the art to use any value between 20-35 as a design choice (Official Notice).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 571-272-7338. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erick Rekstad  
Examiner  
AU 2621  
(571) 272-7338  
[erick.rekstad@uspto.gov](mailto:erick.rekstad@uspto.gov)



  
GIMS PHILIPPE  
PRIMARY EXAMINER